General

Title

Cardiovascular implantable electronic device (CIED): proportion of adult patients with a new CIED with an in-person evaluation within 2 to 12 weeks following implantation.

Source(s)

Heart Rhythm Society. Performance measure technical specifications. Washington (DC): Heart Rhythm Society; 2015 Mar. 3 p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

Proportion of adult patients with a new cardiovascular implantable electronic device (CIED) with an in-person evaluation within 2 to 12 weeks following implantation.

Rationale

This patient-centered measure addresses follow-up of patients who have undergone implantation of a cardiovascular implantable electronic device (CIED). A well-established and efficient follow-up program for patients who have undergone implantation of a CIED is important to improve intermediate and longer term outcomes and for purposes of better care coordination. Based on this evidence, the expert clinical guidance recommends that patients with devices have an in-person follow-up appointment 2 to 12 weeks following implantation and have a yearly in-person evaluation from the time of implantation. There is evidence that follow-up is associated with a reduction of inappropriate or "unnecessary" implantable cardioverter-defibrillator (ICD) therapy. Appropriate device programming can impact patient outcomes

following CIED implantation. Intermediate outcomes include optimizing cardiac device function to meet the patient's clinical needs, early identification of device or lead failures, minimizing inappropriate shocks (which are associated with increased risk of heart failure and death), detecting and treating arrhythmias, and early identification of infection. Health outcomes include improving the patient's quality of life (e.g., optimizing ICD programming may reduce unnecessary device therapy and even reduce mortality). It has been recently demonstrated that follow-up within 2 to 12 weeks after CIED placement is independently associated with improved survival at 1 year (Hess et al., 2013). In addition, this measure can help to assure that follow-up occurs regardless of where the patient receives care.

This measure also targets an important gap in care. Among patients eligible for an in-person CIED follow-up after implantation, only 42.4% had an initial in-person visit within 2 to 12 weeks. Disparities also have been identified, with follow-up visits significantly more common among whites than blacks and patients of other races (43.0% versus 36.8% versus 40.5%; P less than 0.001) (Al-Khatib et al., 2013).

Evidence for Rationale

Al-Khatib SM, Mi X, Wilkoff BL, Qualls LG, Frazier-Mills C, Setoguchi S, Hess PL, Curtis LH. Follow-up of patients with new cardiovascular implantable electronic devices: are experts' recommendations implemented in routine clinical practice?. Circ Arrhythm Electrophysiol. 2013 Feb;6(1):108-16. PubMed

Heart Rhythm Society. Performance measures for purposes of public reporting and quality improvement. Washington (DC): Heart Rhythm Society; 2014 Aug. 8 p.

Hess PL, Mi X, Curtis LH, Wilkoff BL, Hegland DD, Al-Khatib SM. Follow-up of patients with new cardiovascular implantable electronic devices: is adherence to the experts' recommendations associated with improved outcomes?. Heart Rhythm. 2013 Aug;10(8):1127-33. PubMed

Primary Health Components

Cardiovascular implantable electronic device (CIED); CIED implantation; in-person evaluation/follow-up

Denominator Description

All Medicare Fee-for-Service (FFS) beneficiaries with implantation of a new cardiovascular implantable electronic device (CIED) during the reporting period (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

Number of patients from the denominator with an in-person evaluation within 2 to 12 weeks following implantation (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed

journal

Additional Information Supporting Need for the Measure

Unspecified

Extent of Measure Testing

In March 2010, the Heart Rhythm Society's (HRS) Quality Improvement Subcommittee conducted a strategic planning meeting to identify recommendations on how the Society could best prepare for the increased focus of performance measurement by the United States (U.S.) government and others. The topics discussed included performance measurement in general, as well as public reporting and value-based purchasing, specifically. Through the work of the Measure Development Task Force during cycle 1 of the initiative, two physician-level measures were fully-specified and tested: *HRS-3: Implantable Cardioverter-Defibrillator (ICD) Complications Rate* and *HRS-4: In-Person Evaluation Following Implantation of a Cardiovascular Implantable Electronic Device (CIED)*. The measures were developed with the intent to submit them to the National Quality Forum (NQF) for endorsement consideration when a relevant call for measures is issued. Pilot testing is a prerequisite for NQF.

In November 2012, HRS completed the field testing of HRS-4 at four HRS-volunteer sites to assess reliability and validity. Additionally, to assess the performance gap for HRS-4, HRS made arrangements with OptumInsight to use its anonymized database of claims information to conduct a national, 3-year assessment for performance on the measure based on an algorithm derived from the measure specifications. Based on the testing results, *HRS-4: In-Person Evaluation Following Implantation of a CIED* is valid and reliable and there is a significant gap with much room for improvement.

In 2014, in partnership with the Cleveland Clinic and the University of Colorado, the Society conducted an implementation pilot on *HRS-4: In-Person Evaluation Following Implantation of a CIED* with the goal of demonstrating that the information gathered by the HRS-4 measure is meaningful, understandable, and useful for quality improvement and that the data collection strategy can be implemented. Two sites retrospectively collected data using an implementation protocol and calculated performance scores using a data collection algorithm. The pilot showed a gap in care related to the in-person follow-up within 2 to 12 weeks after implant. The pilot also raised the challenge of tracking patients who have an implant at one center and their follow-up visit at another location outside the system. As the results of the pilot, the scope findings of the pilot, the scope of the measure was limited to Medicare Fee-for-Service (FFS) beneficiaries.

Evidence for Extent of Measure Testing

Heart Rhythm Society (HRS). Performance measure development initiative quality improvement pilot implementation plan. Washington (DC): Heart Rhythm Society (HRS); 9 p.

Le Blanc I. (Manager, Health Policy, Heart Rhythm Society, Washington, DC). Personal communication. 2015 Feb 23. 9 p.

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Ambulatory Procedure/Imaging Center

Hospital Inpatient

Hospital Outpatient

Managed Care Plans

Transition

Type of Care Coordination

Coordination across provider teams/sites

Coordination between providers and patient/caregiver

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Individual Clinicians or Public Health Professionals

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Medicare Fee-for-Service (FFS) beneficiaries

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Effective Communication and Care Coordination
Person- and Family-centered Care
Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Data Collection for the Measure

Case Finding Period

The reporting period

Denominator Sampling Frame

Enrollees or beneficiaries

Denominator (Index) Event or Characteristic

Patient/Individual (Consumer) Characteristic

Therapeutic Intervention

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

All Medicare Fee-for-Service (FFS) beneficiaries with implantation of a new cardiovascular implantable electronic device (CIED) during the reporting period

Note:

CIEDs encompassed for this measure are the following devices:
- Pacemakers (PMs)
- Implantable cardioverter-defibrillators (ICDs)
- Cardiac resynchronization devices (CRTs)

Refer to the original measure documentation for International Classification of Diseases, Ninth Revision (ICD-9) and Current Procedural Terminology (CPT) diagnosis and procedure codes.

Exclusions

- Patients with implantable loop recorders or implantable cardiovascular monitors
- Patients with pulse generator exchange only
- Patients with prior CIED implantation
- Patient preference for other or no treatment

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

Number of patients from the denominator with an in-person evaluation within 2 to 12 weeks following implantation

Note: For the purposes of this measure, an "in-person evaluation" is defined as an in-person interrogation device evaluation either with or without iterative adjustment, as clinically indicated. The in-person evaluation can be provided by any trained physician or clinically employed allied professional (CEAP) in a designated CIED follow-up clinic, medical institution, or physician office.

Exclusions

Unspecified

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Registry data

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

HRS-4: In-person evaluation following implantation of a cardiovascular implantable electronic device (CIED).

Submitter

Heart Rhythm Society - Disease Specific Society

Developer

Heart Rhythm Society - Disease Specific Society

Funding Source(s)

Unspecified

Composition of the Group that Developed the Measure

The Heart Rhythm Society Performance Measures Development Task Force consists of thought leaders in atrial fibrillation ablation, device implantation, cardiovascular health policy, performance measures development, patient safety, clinical outcomes, and population science. The roster can be provided upon request at policy@hrsonline.org.

Financial Disclosures/Other Potential Conflicts of Interest

Conflicts, if any, are disclosed in accordance with the Heart Rhythm Society conflict of interest disclosure policy.

Endorser

National Quality Forum - None

NQF Number

not defined yet

Date of Endorsement

2015 Jun 29

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 Mar

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

The measure developer reaffirmed the currency of this measure in June 2016.

Measure Availability

Source not available electronically.

For more information, contact the Heart Rhythm Society (HRS) at 1400 K Street NW, Suite 500, Washington, DC 20005; Phone: 202-464-3400; Fax: 202-464-3401; E-mail: info@HRSonline.org; Web site: www.hrsonline.org .

NQMC Status

This NQMC summary was completed by ECRI Institute on January 26, 2015. This NQMC summary was verified by the measure developer on February 23, 2015.

The information was reaffirmed by the measure developer on June 10, 2016.

Copyright Statement

Production

Source(s)

Heart Rhythm Society. Performance measure technical specifications. Washington (DC): Heart Rhythm Society; 2015 Mar. 3 p.

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